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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------------|
| 10/771,695 | 02/04/2004 | Paul D. Hanke | 040049 | 4373 |
| 45453 7590 11/29/2007 BUCHANAN INGERSOLL PC (ARCHER DANIELS MIDLAND COMPANY) 301 GRANT STREET, 20TH FLOOR PITTSBURGH, PA 15219 | | | EXAMINER KIM, ALEXANDER D | |
| | | | ART UNIT 1656 | PAPER NUMBER |
| | | | MAIL DATE 11/29/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/771,695

Applicant(s)

HANKE ET AL.

Examiner

Alexander D. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19,20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 19,20,22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Application Status

1. In response to the previous Office action, a non-Final rejection after RCE (mailed on 05/15/2007), Applicants filed a response and amendment received on 08/15/2007.

Said amendment cancelled Claims 1-18, 21 and 25-32; amended Claims 19 and 24.

Claims 19-20 and 22-24 are pending in the instant Office action.

Thus, Claims 19-20 and 22-24 will be examined herein.

Objections to the Specification

2. The previous objection of Figure 24 is maintained because of a translation of AT into a Ile in the sequence listing and the Figure 24. Applicants' arguments have been fully considered but are not deemed persuasive for the following reasons.

Applicants argue the instant objection is moot by deleting Figure 24 and correcting the description in the specification. However, applicants failed to file an amended replacement drawing sheet including all of the figures appearing on the immediate prior version of the sheet.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. Appropriate correction is required.

Maintained-Claim Rejections - 35 USC § 103

3. The previous rejection of Claims 19-20, 22, and 24 under 35 U.S.C. 103(a) as being unpatentable over Pisabarro et al. (1993 May, Journal of Bacteriology, Vol. 175, pp. 2743-2749 as cited in IDS) in view of Labarre et al (1993, Journal of Bacteriology, Vol. 175, p. 1001-1007) and Hirano et al. (US Pat. 6,090,597, Jul 18, 2000) is maintained. Applicants' arguments have been fully considered but are not deemed persuasive for the following reasons.

Applicants argue the disclosure of "it is likely that ORF2 is translated in Corynebacterium" by Pisabarro et al. is a blanket statement and it is not a suggestion that the translation is involved in amino acid production, or that increasing translation of the open reading frame would increase amino acid production (see Remarks p. 7, bottom). Thus, instant rejection have no prima facie case of obviousness exists.

As noted in the previous office actions, one would be motivated to do so because Pisabarro et al. suggest "it is likely that ORF2 is also translated in corynebacteria" in lysine biosynthesis (see bottom left column, last paragraph, p. 2748) and Labarre et al. teach a "reliable and general method" (see Material and Methods" on page 1001-1002 and page 1006, left column bottom) for inserting genes into the chromosome of *C. glutamicum*. Labarre et al. also disclose chromosomal integration enhances expression of encoded protein (Table 3) and suggest the technique can be used "in studying and eventually modifying complex host functions such as high-level amino acid production" (see p. 1007, left column, top). Furthermore, see Figure 1 of Pisabarro (copy of Figure 1 is shown below) which teaches this gene cluster is directly involved in making Lysine; thus, one skilled in the art would be motivated to overexpress ORF2 in order to enhance the production of the amino acid; thus, the statement by Pisabarro et al. is more than "just blanket statement" as Applicants allege in the Remarks page 7, middle. Furthermore, Pisabarro et al. recites "the genes of the lysine biosynthetic pathway are clustered in certain microorganisms" (see top of right column, page 2744).

Applicants also argue the "Lack of "comprising" language would exclude an isolated polynucleotide molecule encoding the entire polypeptide encoded by non-truncated ORF2, which makes the claimed subject matter "different from anything in the cited art" (see top of page 8, Remarks).

However, this is not true because the instant claims 19 and 24 recite "the polypeptide consisting essentially of the amino acid sequence of SEQ ID NO: 19", wherein the term essentially makes instant claims open to more than just SEQ ID NO:

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19. Thus, ORF2 of Pisabarro et al. is encompassed by the scope of claims reciting “essentially of the amino acid sequence of SEQ ID NO: 19. The instant claims are still broad to encompass a full length of ORF2 by Pisabarro et al. The term “consisting” and “essentially consisting” are different. Thus, the instant claims are broad enough to encompass the full length of ORF2 by Pisabarro et al.

For the reasons above, the instant rejection is maintained.

2744 NOTES

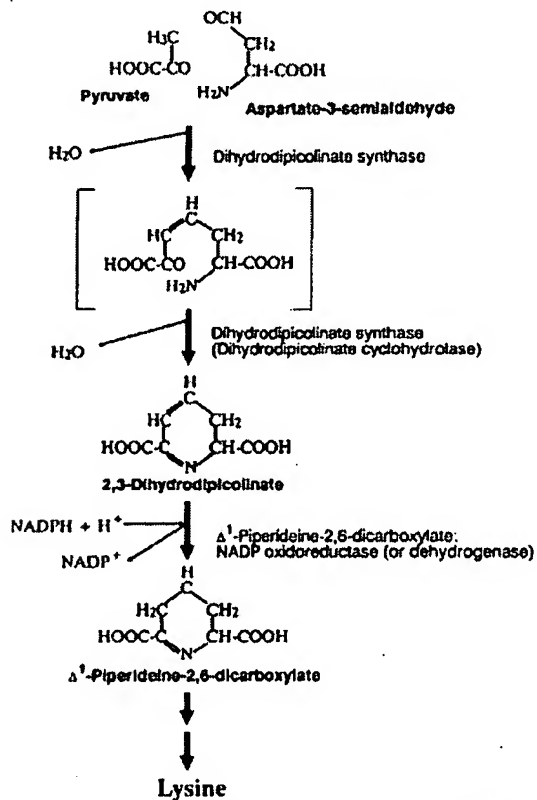


FIG. 1. Conversion of aspartyl semialdehyde into 2,3-dihydrodipicolinate and Δ¹-piperidine-2,6-dicarboxylate by the dihydrodipicolinate synthase (*dapA*) and dihydrodipicolinate reductase (*dapB*) enzymes.

Conclusion

4. Claims 19-20, 22 and 24 are not allowed for the reasons identified in the numbered sections of this Office action. Applicants must respond to the objections/rejections in each of the numbered section in this Office action to be fully responsive in prosecution.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

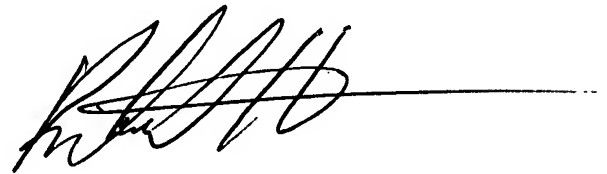
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Kim whose telephone number is (571) 272-5266. The examiner can normally be reached on 8AM-5PM.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragdon can be reached on (571) 272-0931. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Kim
November 14, 2007

A handwritten signature in black ink, appearing to read 'R. Hutson', followed by a horizontal line.

**RICHARD HUTSON, PH.D.
PRIMARY EXAMINER**